

Mid-term results of hybrid coronary revascularization

Yoshitsugu Nakamura, Daiki Yoshiyama, Yuta Yasumoto, Miho Kuroda, Shintaro Sawa, Taisuke Nakayama, Ryo Tsuruta, Akira Furutachi, Yujiro Ito

Department of Cardiovascular Surgery, Chibanishi general hospital, Chiba, Japan

BACKGROUND

Hybrid coronary revascularization (HCR) is synergistic minimally invasive direct coronary artery bypass (MIDCAB) of the left anterior descending artery (LAD) and percutaneous coronary intervention (PCI) of non-left anterior descending vessels to treat multivessel coronary artery disease.

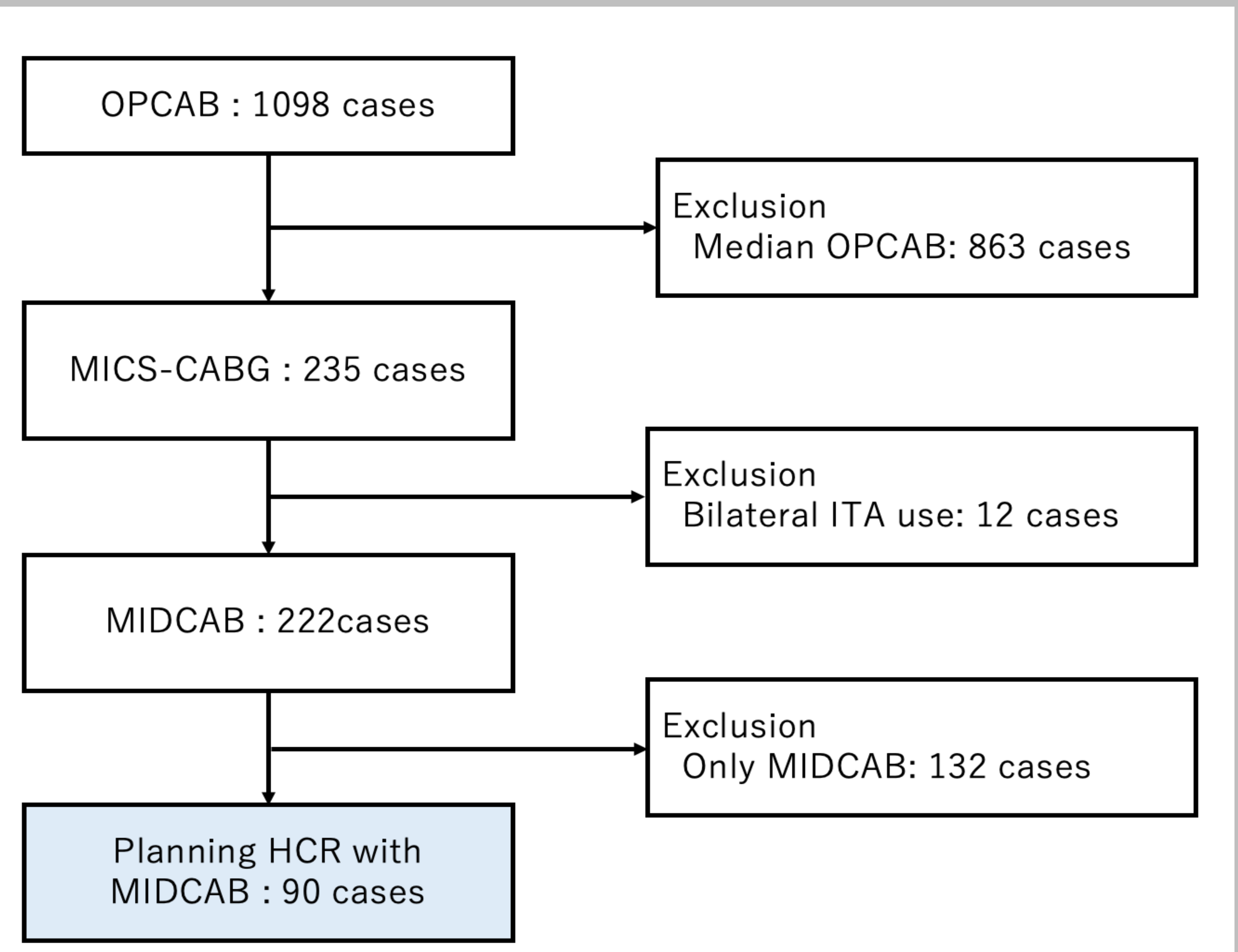
OBJECTIVE

The aim of this study was to evaluate safety and effectiveness of HCR in our institution.

METHOD

We conducted a retrospective (intention-to-treat) analysis of HCR performed at our institution from May 2014 to July 2022

PATIENTS



Patients’ characteristics

Variable	HCR (n=90)
Mean age (years)	72 ± 9
Female, n (%)	14 (16)
Hypertension, n (%)	76 (84)
Hyperlipidemia, n (%)	59 (66)
Diabetes, n (%)	36 (40)
COPD, n (%)	7 (8)
Chronic renal failure, n (%)	24 (27)
euroSCORE II, %	1.8 ± 1.1

Reason for HCR selected

Variable	HCR (n=90)
Suitable coronary lesion, n (%)	70 (78)
High risk for median sternotomy, n (%)	20 (22)
High age, n (%)	5 (6)
Decline due to low ADLs, n (%)	4 (4)
Steroid user, n (%)	3 (3)
severe COPD, n (%)	5 (6)
Other organ disease, n (%)	4 (4)

RESULTS

After MIDCAB

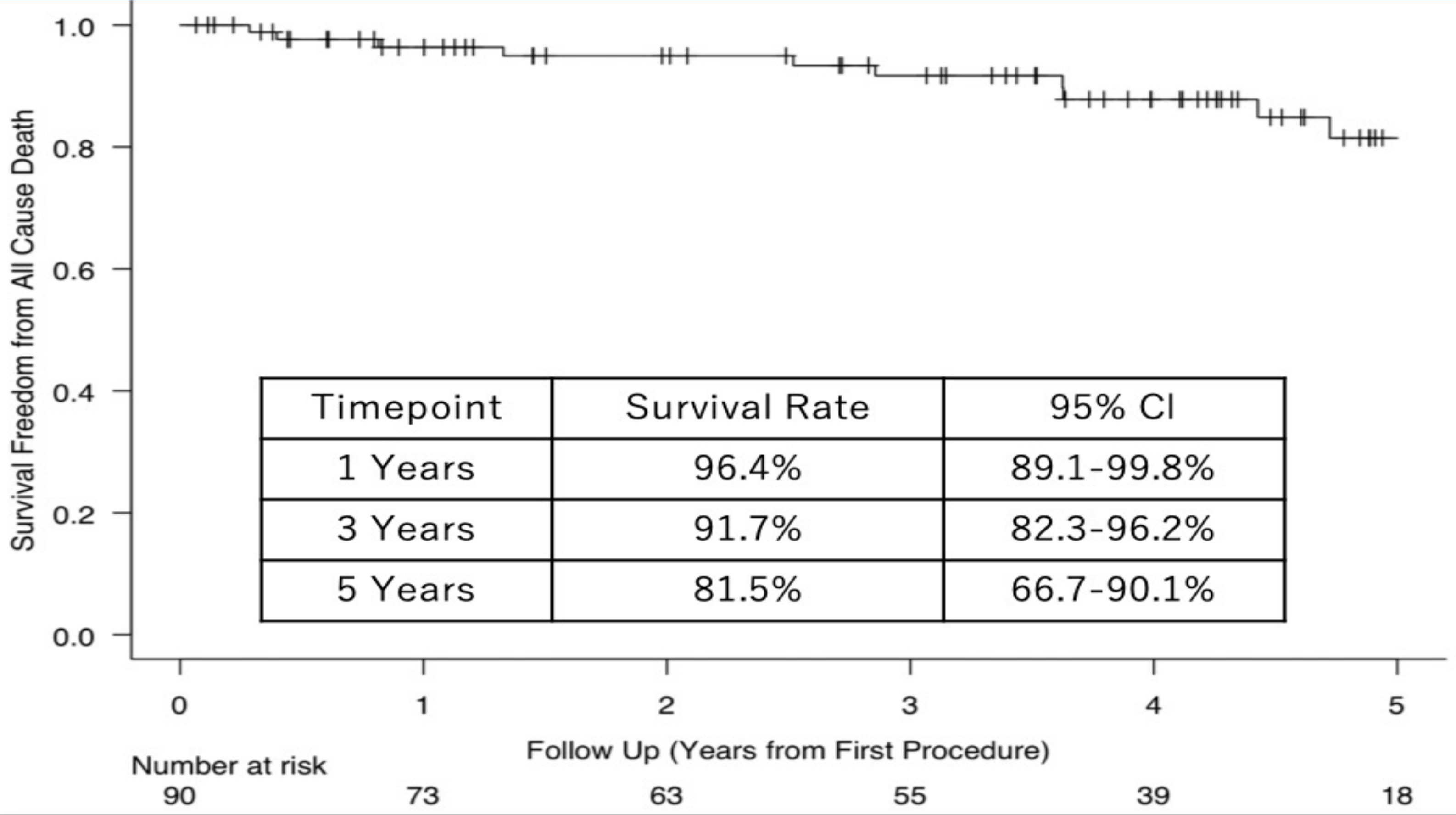
Variable	HCR (n=90)
Operative time, min	174 ± 32
LITA harvesting time, min	50 ± 14
Graft flow, ml/min	33 ± 6
Bleeding volume, ml	158 ± 100
In-Hospital Mortality, n (%)	0 (0)
Hospital stay, days	8 (7-10)
Blood transfusion, n (%)	8 (9)

After PCI

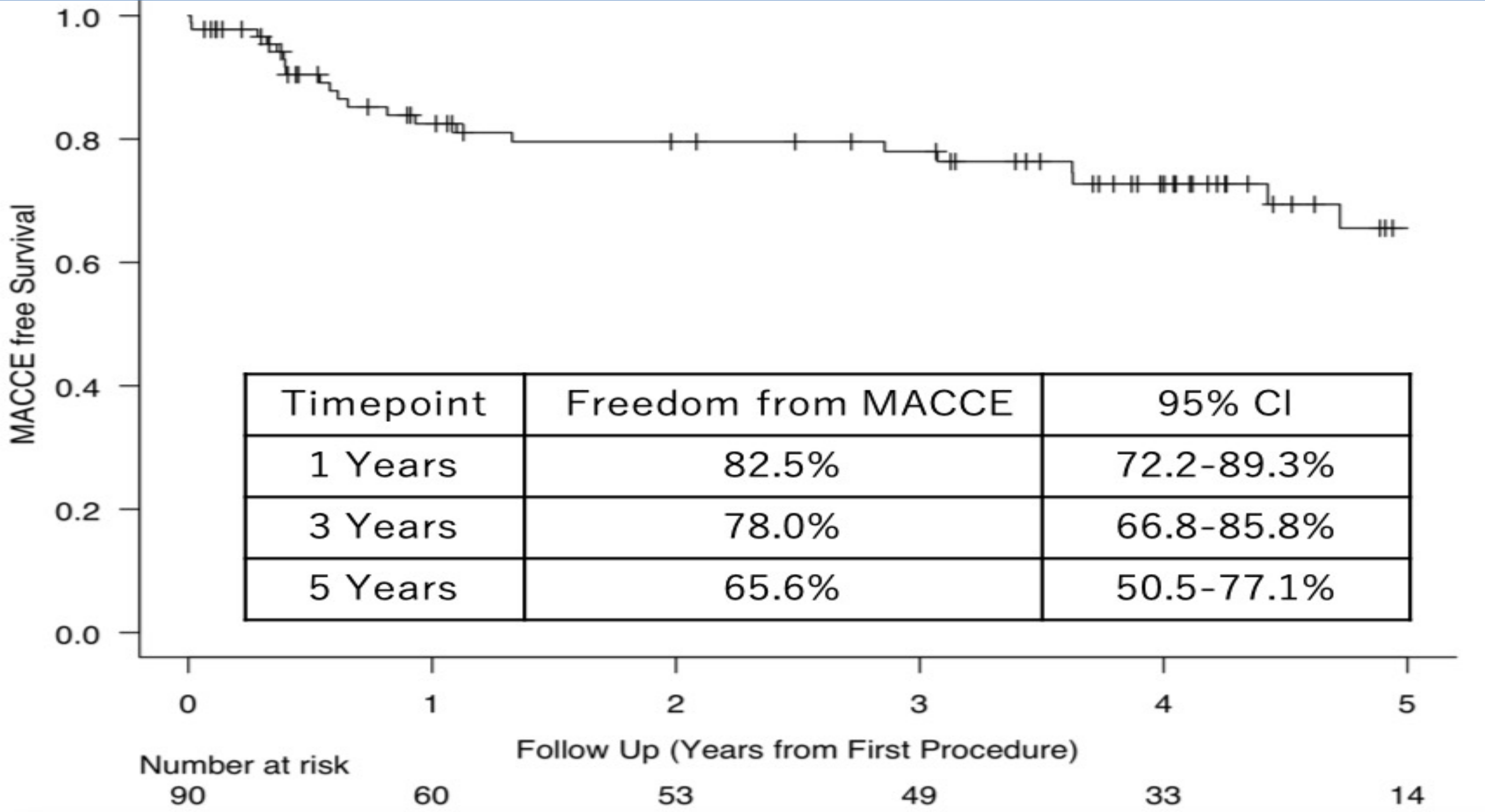
Variable	HCR (n=90)
Treated lesions	
1 lesion, n (%)	38 (42)
2 lesions, n (%)	25 (28)
3 lesions, n (%)	10 (11)
In Hospital Mortality, n (%)	0 (0)
Myocardial infarction, n (%)	1 (1)
Cerebral vascular event, n (%)	1 (1)
PCI failure, n (%)	2 (2)

MID-TERM RESULTS

Survival Freedom from All Cause Death



Survival Freedom from MACCE



CONCLUSION

HCR is an effective coronary artery revascularization strategy in selected patients with multivessel coronary artery disease.